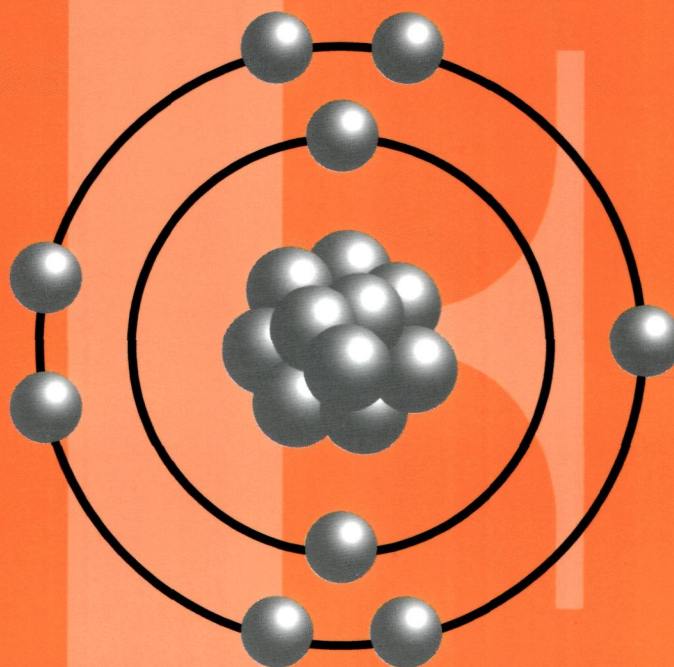


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Graphical Abstracts/J. Fluorine Chem. 160 (2014) iv–vii

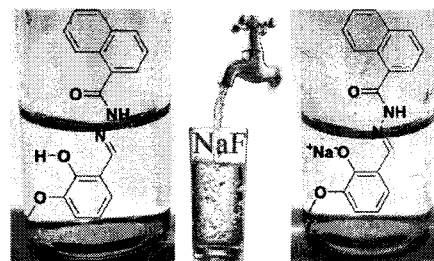
“Naked-eye” detection of inorganic fluoride ion in aqueous media using base labile proton: A different approach

Madhuprasad Kigga, Darshak R. Trivedi

Supramolecular Chemistry Laboratory, Department of Chemistry, National Institute of Technology Karnataka (NITK), Surathkal, Mangalore 575025, Karnataka, India

- Two receptors R1 and R2 were synthesized for the detection of fluoride ions.
- R1 detected F⁻ only in organic media and solvates in aqueous media.
- R2 detected inorganic F⁻ in aqueous media by deprotonation of base labile proton.

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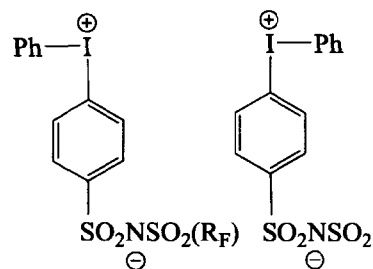
Bis(diaryliodonium) perfluorosulfonimide zwitterions as potential photo acid generators

Hua Mei^a, Darryl D. DesMarteau^b^aDepartment of Chemistry, East Tennessee State University, Johnson City, TN 37604, United States^bDepartment of Chemistry, Clemson University, Clemson, SC 29631, United States

Three examples of bis(diaryliodonium) perfluorosulfonimide (BDI-PFSI) zwitterions have been prepared as a potential new class of ionic photo-acid generators for chemically amplified photoresist formulations.

Bis(diaryliodonium) perfluorosulfonimide zwitterions.

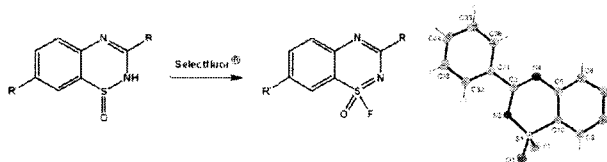
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1-Oxo-1-fluoro-1,2,4-benzothiadiazines—A new type of cyclic sulfonimidoyl fluorides

Natalia P. Kolesnik^a, Alexander B. Rozhenko^a, Vasyl Kinzhybalov^b, Tadeusz Lis^c, Yuriy G. Shermolovich^a^aInstitute of Organic Chemistry, NAS of Ukraine, Murmanska 5, 02094 Kyiv, Ukraine^bInstitute of Low Temperature and Structure Research, Okólna 2, 50-422 Wrocław, Poland^cFaculty of Chemistry, University of Wrocław, F. Joliot-Curie 14, 50-383 Wrocław, Poland

- An approach to the synthesis of the novel cyclic sulfonimidoyl fluorides was achieved.
- We examined the electrophilic fluorination of 1-oxo-2H-1,2,4-benzothiadiazines with Selectfluor[®].
- Crystal structure of 1-fluoro-3-phenyl-1,2,4-benzothiadiazine 1-oxide was determined.



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Studies toward terminal (fluoroalkyl)silanes. Investigation of diethylaminosulfur trifluoride (DAST) in exchange reactions with some terminal (hydroxyalkyl)silanes

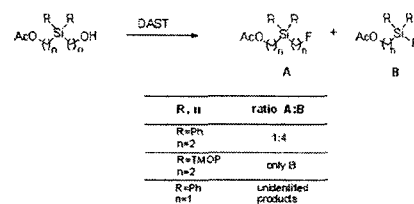
Aristeidis Chiotellis^a, Svetlana V. Selivanova^a, Bernd Schweizer^b, Roger Schibli^a, Simon M. Ametamey^a

^aCenter for Radiopharmaceutical Sciences of ETH, PSI and USZ, Department of Chemistry and Applied Biosciences, Swiss Federal Institute of Technology (ETH) Zurich, Wolfgang Pauli Strasse 10, 8093 Zurich, Switzerland

^bLaboratory of Organic Chemistry, Department of Chemistry and Applied Biosciences, Swiss Federal Institute of Technology (ETH) Zurich, Wolfgang Pauli Strasse 10, 8093 Zurich, Switzerland

- The reaction of DAST with 2-((2-hydroxyethyl)diphenylsilyl)ethyl acetate led to the formation of the substitution product 2-((2-fluoroethyl)diphenylsilyl)ethyl acetate in considerable amount.
- Various reaction conditions were tested for reaction optimization.
- Substitution of the two phenyl groups with 2,4,6-trimethoxyphenyl groups favored exclusively the elimination route.
- Reaction of DAST with ((hydroxymethyl)diphenylsilyl)methyl acetate does not yield the corresponding fluoromethylidiphenyl silane.

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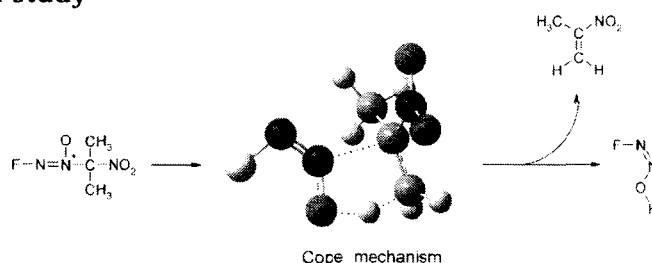


Molecular mechanism of thermal decomposition of fluoronitroazoxy compounds: DFT computational study

Radomir Jasiński

Cracow University of Technology, Institute of Organic Chemistry and Technology, Warszawska 24, 31-155 Cracow, Poland

- DFT study proves that the mechanism of decomposition of fluoronitroazoxy compounds is quite unlike that previously suggested.
- The nature of the substituent and medium polarity do not affect the mechanism of decomposition of fluoronitroazoxy compounds.
- Substituent and solvent effects determine the kinetics of decomposition of fluoronitroazoxy compounds to some extent.



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Synthesis and characterization of cobalt complexes with pentafluorophenylhydrazine: Nucleophilic attack of phenolic oxygen to pentafluorophenyl ring during condensation of two Schiff base ligands

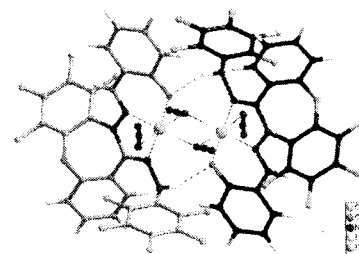
Nader Noshiranzadeh^a, Rahman Bikas^{a,b}, Katarzyna Ślepokura^b, Mohammad Shaabani^a, Tadeusz Lis^b

^aDepartment of Chemistry, Faculty of Science, University of Zanjan, 45195-313 Zanjan, Iran

^bFaculty of Chemistry, University of Wrocław, Joliot-Curie 14, Wrocław 50-383, Poland

- Structures of two Co complexes with ligands derived from pentafluorophenylhydrazine was reported.
- Condensation of Schiff base ligands by nucleophilic attack of NH group to azomethine was reported.
- Ph-O-Ph formation by nucleophilic attack of phenolic oxygen to pentafluorophenyl ring was reported.

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Mechanistic studies and quantification of the electrophilicity of aromatic triflones in σ -complexation and S_NAr reactions

Nizar ElGuesmi^{a,c}, Guillaume Berionni^b, Basim H. Asghar^c

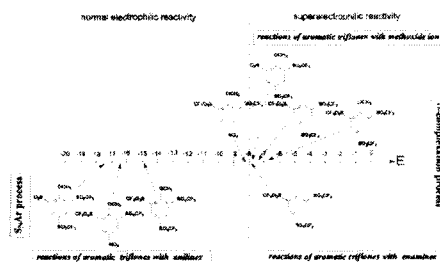
^aDepartement de chimie, Faculté des Sciences de Monastir, Avenue de l'Environnement, 5019 Monastir, Tunisia

^bUniversud Paris, Institut Lavoisier de Versailles—UMR CNRS 8180, Université de Versailles, 45, Avenue des Etats-Unis, 78035 Versailles Cedex, France

^cDepartment of Chemistry, Faculty of Applied Sciences, Umm Alqura University, PO Box 9569, Makkah, Saudi Arabia

- We quantified the electrophilic reactivity for four aromatic triflones.
- We examined the substituents effect on the electrophilic strength.
- Ranking the neutral electro-deficient electrophiles in Mayr's scale.
- Increasing the scope and the applications of the Mayr equation.
- Expanding the range of coupling reactions.

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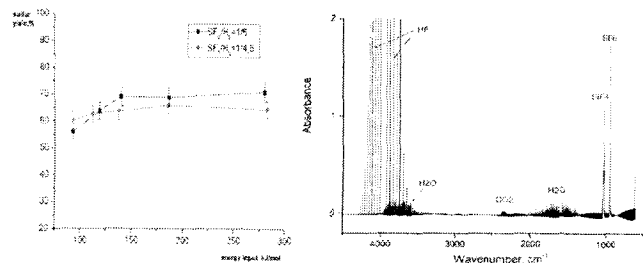


Investigation of the process of hydrogen reduction of ^{32}S from $^{32}\text{SF}_6$ via RF capacitive plasma discharge

L.A. Mochalov, R.A. Kornev, M.F. Churbanov, P.G. Sennikov

Laboratory of Plasma Chemistry, G.G. Devyatikh Institute of Chemistry of High-Purity Substances of the Russian Academy of Sciences, Nizhny Novgorod 603950, Russia

- The process of hydrogen reduction of ^{32}S from $^{32}\text{SF}_6$ via RF capacitive plasma discharge was investigated at low pressure.
- The main products of the plasma-chemical reactions were identified.
- The dependence of ^{32}S yield on energy contribution was studied.
- The optimum conditions for the process of plasma-chemical reduction were determined.

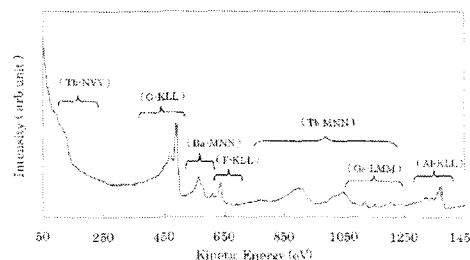


Auger electron spectroscopy for chemical state and quantitative analysis of terbium containing oxide fluoride glasses

Fumihiro Nishimura, Jae-Ho Kim, Susumu Yonezawa, Masayuki Takashima

Department of Materials Science and Engineering, Faculty of Engineering, University of Fukui, 3-9-1 Bunkyo, Fukui 910-8507, Japan

- Oxide fluoride glasses were prepared with TbF_3 and Tb_4O_7 .
- The oxide fluoride glasses were analyzed using Auger electron spectroscopy.
- State analysis of aluminum was conducted for the oxide fluoride glasses.



Preparation, structure and properties of pyridinium/bipyridinium hexafluorosilicates

Vladimir O. Gelmboldt^a, Eduard V. Ganin^b, Mark M. Botoshansky^c, Vladimir Yu. Anisimov^a, Olga V. Prodan^a, Victor Ch. Kravtsov^d, Marina S. Fonari^d

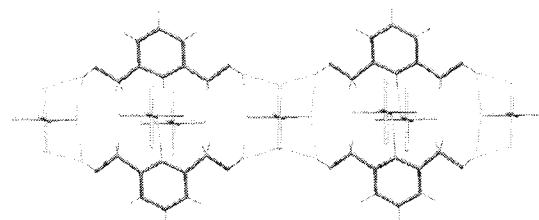
^aOdessa National Medical University, Valikhovskiy lane 2, 65026 Odessa, Ukraine

^bOdessa State Environmental University, Lvovskaya Str. 15, 65016 Odessa, Ukraine

^cSchulich Faculty of Chemistry, Technion-Israel Institute of Technology, Technion City, 32000 Haifa, Israel

^dInstitute of Applied Physics, Academy of Sciences of Moldova, Academy Str. 5, MD2028 Chisinau, Republic of Moldova

- New pyridinium/bipyridinium hexafluorosilicates as potential caries-protected agents.
- Increase of H-donor numbers as a factor influencing the solubility of salts.
- Identification of neutral chelate $\text{cis-}[\text{SiF}_4(2,2'\text{-Bipy})]$ from acidic aqueous-organic medium.



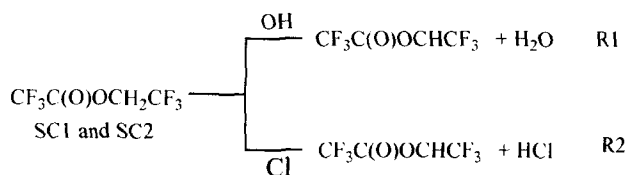
A computational perspective on mechanism and kinetics of the reactions of $\text{CF}_3\text{C}(\text{O})\text{OCH}_2\text{CF}_3$ with OH radicals and Cl atoms at 298 K

Nand Kishor Gour^a, Ramesh Chandra Deka^b, Hari Ji Singh^a, Bhupesh Kumar Mishra^b

^aDepartment of Chemistry, D.D.U. Gorakhpur University, Gorakhpur, Uttar Pradesh 273009, India

^bDepartment of Chemical Sciences, Tezpur University, Napaam, Tezpur, Assam 784 028, India

- Reactions of $\text{CF}_3\text{C}(\text{O})\text{OCH}_2\text{CF}_3$ with OH radicals and Cl atoms are investigated.
- Two conformers relatively close in energy have been identified.
- Reaction profiles are modeled including the formation of pre-reactive and post-reactive complexes.
- Calculated rate constant values are in good agreement with the experimental results.
- Bond dissociation energy and $\Delta_f H^\circ_{298}$ are also reported.



Three step procedure for the preparation of aromatic and aliphatic difluoromethyl ethers from phenols and alcohols using a chlorine/fluorine exchange methodology

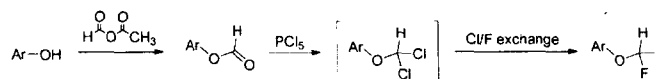
J. Fluorine Chem., 160 (2014) 72

William R. Dolbier Jr.^a, Fei Wang^a, Xiaojun Tang^a, Charles S. Thomason^a, Linhua Wang^b

^aDepartment of Chemistry, University of Florida, Gainesville, FL 32608, United States

^bSyngenta Crop Protection LLC, 410 Swing Road, Greensboro, NC 27409, United States

● Synthesis of difluoromethyl ethers. ● Synthesis of dichloromethyl ethers. ● Chlorine/fluorine exchange. ● Use of HF-Lewis base media for fluorination.



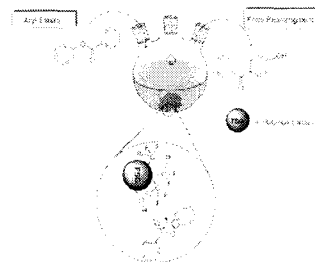
Catalytic application of fluorous silica gel in Fries rearrangement

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Mohammad Ghaffarzadeh, Maryam Ahmadi

Chemistry and Chemical Engineering Research Center of Iran (CCERC), P.O. Box 14335-186, Tehran, Iran

● Unmodified fluorous silica gel (FSG) was discovered as an efficient catalyst in Fries rearrangement. ● A reusable fluorous catalyst system with the advantages of being commercially available was employed. ● Ease of work-up, high recovery, low cost of procedure, and simplicity were the other advantages.



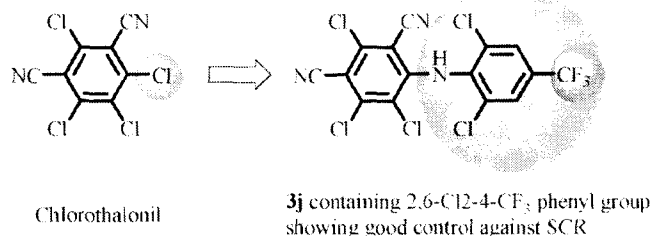
Synthesis and fungicidal activity of fluorine-containing chlorothalonil derivatives

J. Fluorine Chem., 160 (2014) 82

Aiyong Guan, Changling Liu, Guang Huang, Huichao Li, Shulin Hao, Ying Xu, Yong Xie, Zhinian Li

State Key Laboratory of the Discovery and Development of Novel Pesticide, Shenyang Research Institute of Chemical Industry Co. Ltd., Shenyang 110021, China

● Application of the strategies of intermediate derivatization method. ● Trifluoromethyl, a very strong electron withdrawing group, plays an important role on fungicidal activity. ● Characterization of target compounds using ¹H NMR, ¹³C NMR, ¹⁹F NMR, elemental analysis, HRMS and X-ray. ● Excellent fungicidal activity against *Puccinia polysora*. ● Detailed structure and activity relationship of target compounds.



Synthesis of enantiomerically pure 4-polyfluoromethyl-4-hydroxy-homoprolines by intramolecular cyclization of 6-amino-5-polyfluoromethyl-hex-2-enoic acids

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Elena N. Shaitanova^a, Igor I. Gerus^a, Valery P. Kukhar^a, Günter Haufe^b

^aInstitute of Bioorganic Chemistry and Petrochemistry, National Academy of Sciences of Ukraine, Str. Murmanskaya 1, Kiev 02094, Ukraine

^bOrganisch-Chemisches Institut, Universität Münster, Corrensstraße 40, 48149 Münster, Germany

● The first synthesis of racemic and enantiopure 4-polyfluoromethyl-4-hydroxy-homoprolines. ● The synthesis of polyfluoromethyl containing 6-aminoacrylates. ● The example of intramolecular heterocyclization under acidic conditions.

